

Serial Number 09/766,170

ETH1626

1. (Currently Amended) An anastomosis device for use in coupling a graft vessel to a side of a target vessel, the target vessel having an opening formed in a side wall thereof, the anastomosis device comprising:

a graft vessel having an end portion and a proximal portion;

a coupling member attached to the graft vessel;

a flexible tube attached to the coupling member; and

wherein the graft vessel extends through the flexible tube, a free end of the graft vessel is everted over and coupled to at least a portion of the coupling member, the coupling member is being radially compressible to a compressed state for insertion of at least a portion of the coupling member and at least a portion of the end portion of the graft vessel into the opening of the target vessel, and the coupling member is being positionable within the opening of the target vessel when the coupling member expands from the compressed state to an expanded state, and wherein the proximal portion of the graft vessel extends outside the opening of the target vessel when the coupling member is in its expanded state.

2. (Previously Presented) The device of claim 1 wherein said coupling member is self-expanding.

3. (Cancelled)

4. (Currently Amended) The device of claim 1,3 wherein said flexible tube is made from an implantable biocompatible material.

5. (Previously Presented) The device of claim 4 wherein said biocompatible material comprises a plastic material.

6. (Currently Amended) The device of claim 1,3, wherein the flexible tube~~said tubular member~~ further comprises a coil interposed between an inner and outer layer.

7. (Previously Presented) The device of claim 6 wherein said coil is formed from a biocompatible material.

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8. (Previously Presented) The device of claim 7 wherein said biocompatible material is selected from a group consisting of stainless steel and nitinol.
9. (Previously Presented) The device of claim 7 wherein said biocompatible material is selected from a group consisting of plastic, polyurethane, and polycarbonate material.
10. (Previously Presented) The device of claim 6 wherein said inner and outer layers are formed from a low durometer plastic material.
11. (Previously Presented) The device of claim 10 wherein said plastic material is silicone.
12. (Previously Presented) The device of claim 1 wherein said coupling member is made from a biocompatible material.
13. (Previously Presented) The device of claim 12 wherein said biocompatible material comprises a non-metallic material.
14. (Previously Presented) The device of claim 13 wherein said non-metallic material comprises a foam material.
15. (Cancelled)
16. (Previously Presented) The device of claim 1 wherein an outside diameter of the coupling member in its expanded state is between about 10 to 80 percent larger than an inside diameter of the target vessel.
17. (Currently Amended) The device of claim 3 wherein an inside diameter of the flexible tube ~~tubular member~~ is between about 0.5 mm to 6.0 mm.
18. (Cancelled )

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19. (Currently Amended) The device of claim 148, wherein the graft vessel is coupled to the coupling member with one or more sutures.

20. (Previously Presented) The device of claim 1 further comprising an introducer having an outer diameter sized to permit insertion of the introducer through the opening in the side wall of the target vessel.

21. (Currently Amended) The device of claim 20, ~~comprising a tubular member attached to the coupling member, and~~ wherein the introducer has a groove formed in one end thereof through which a suture can be attached to the graft vessel and the flexible tubetubular member.

22. (Currently Amended) The device of claim 21 wherein the introducer is configured to be pulled back and separated from the flexible tube tubular member after the introducer is inserted at least partially into the target vessel through the opening in the side wall of the target vessel.

23-30 (Cancelled).

31. (Previously Presented) The device of claim 1, wherein the graft vessel comprises one of an artery, a vein, and a synthetic graft.

32-38. (Cancelled)

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39. (New) An anastomosis device for use in coupling a graft vessel to a side of a target vessel, the target vessel having an opening formed in a side wall thereof, the anastomosis device comprising:

a graft vessel having an end portion and a proximal portion;

a coupling member attached to the graft vessel;

a flexible tube at least partially disposed about the graft vessel and attached to the coupling member; and

wherein a free end of the graft vessel is everted over and coupled to at least a portion of the coupling member, the coupling member is radially compressible to a compressed state for insertion of at least a portion of the coupling member and at least a portion of the end portion of the graft vessel into the opening of the target vessel, and the coupling member is positionable within the opening of the target vessel when the coupling member expands from the compressed state to an expanded state.